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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/448,927	11/24/1999	STEPHEN T. WELLINGHOFF	BTEC-9643	5618

321 7590 09/16/2003

SENNIGER POWERS LEAVITT AND ROEDEL
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

EXAMINER
ANTHONY, JOSEPH DAVID

ART UNIT	PAPER NUMBER
1714	

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/448,927	WELLINGHOFF ET AL.	
	Examiner	Art Unit	
	Joseph D. Anthony	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-78* is/are pending in the application.

4a) Of the above claim(s) *12-37 and 50-78* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 38-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-11 and 38-50, drawn to an amorphous gas generating composition, classified in class 252, subclass 187.23.

II. Claims 12-23 and 51-63, drawn to a composite gas generating powder, classified in class 149, subclass 75.

III. Claims 24-27 and 64-67, drawn to a method of controlled release of a gas, classified in class 423 and 422, subclass various.

IV. Claims 28, 34-35, 68 and 74, drawn to method of retarding microbs, classified in class 422, subclass various.

V. Claims 29 and 69, drawn to method of retarding biochemical decomposition, classified in class 422, subclass various.

VI. Claims 30 and 70, drawn to a method of controlling respiration of a material, classified in class 422, subclass various.

VII. Claims 31 and 71, drawn to method of deodorizing a surface, classified in class 134, subclass **various*.

VIII. Claims 32 and 72, drawn to method of retarding chemotactic attraction of an organism to a material, classified in class 422, subclass various.

IX. Claims 33 and 73, drawn to method of retarding biological contamination of an atmosphere, classified in class 422, subclass various.

X. Claims 36-37 and 75-76, drawn to a process of preparing a gas generating powder, classified in class 252, subclass 187.1.

XI. Claim 77, drawn to a gas-generating composite not co-extensive with the composite of Group II, classified in class 252, subclass 186.1.

XII. Claim 78, drawn to a gas generating composition different from the compositions of Group I, classified in class 252, subclass 187.22.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions X and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the composition as claimed can be made by dry mixing the catalyst with the anions.

3. Inventions (I, II, XI, and XII) and (III,IV,V,VI,VII,VIII, and IX) are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the products as claimed can be used in a process of bleaching stained textiles or newspapers.

4. Inventions I and II are recognized as patentable distinct inventions because invention II claims require the gas generating composition is in a composite powder form, whereas invention I claims have no such requirements and thus be amphorous. In fact, dependent claim 3 of invention I has the solid containing component in the form of an emulsion or dispersion.

5. Inventions (I and II) are recognized as patentable distinct from inventions (XI and XII) and inventions (XI and XII) are recognized as patentable distinct from each other because the claimed subject of invention XI requires a gas barrier layer that is not required in inventions I or II or XII, and invention XII require an acid releasing agent that is not required in inventions I, II or XI.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

7. Claims 1-78 are generic to a plurality of disclosed patentably distinct species of energy-activated catalyst, solid containing anions, electromagnetic energy, and gas generated. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species of energy activated catalyst, solid containing anions, electromagnetic energy, and gas generated even though this requirement is traversed.

8. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

9. During a telephone conversation with Kathleen M. Petrillo on 6/6/03 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-11, and 38-50. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-37 and 51-78 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Ms Petrillo also elected the following species: energy activated catalyst = metal oxide, solid containing anions = hypochlorite salt, electromagnetic energy =light, and gas generated = chlorine. Claims of Group I that read on the elected species are claims 1-10, and 38-49. As such, claims 1-10 and 38-49 will be examined and claims 11 and 50 are also withdrawn form examination.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102 & 103

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-10 and 38-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Hancock U.S. Patent Number 5,772,897 or Yoshida et al. U.S. Patent Number 6,306,352.

Hancock teaches using a porous support impregnated with metal oxides, such as copper and zinc oxides. The impregnated support is placed in an aqueous medium containing a pollutant such as benzoic acid, with sodium hypochlorite to oxidize the benzoic acid to carbon dioxide. Other pollutants can be oxidized to oxygen gas, see abstract. Applicant's claims are deemed to be anticipated over Example 4. Although the patent does not directly disclose the

use of electromagnetic energy, such as light, to activate the metal oxide(s), such is deemed to be moot since applicant's invention is drawn to a composition not to a method of activating the composition.

Yoshida et al teaches oxygen-generating materials containing carbon dioxide absorbers. Applicant's claims are deemed to be anticipated over Example 24 wherein a composition is taught that comprises in part: sodium carbonate hydrogen peroxide adduct, manganese dioxide and activated alumina. Although the patent does not directly disclose the use of electromagnetic energy, such as light, to activate the metal oxide(s), such is deemed to be moot since applicant's invention is drawn to a composition not to a method of activating the composition. Furthermore, it is held by the examiner that the patent's oxygen generating compositions produced small quantities of carbon dioxide due to the use of sodium carbonate hydrogen peroxide adduct.

13. Claims 1-5, 7-10, 38-42 and 44-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang et al. U.S. Patent Number 5,783,105 or Yoshida U.S. Patent Number 5,898,126.

Zhang et al. teaches oxygen generating compositions that comprise in part: a transition metal oxide catalyst, a metal fuel, an oxygen source material etc., see abstract, column 4, line 29 to column 5, line 23. Applicant's claims are deemed to be anticipated over the examples, such as example 3. Although the patent does not directly disclose the use of electromagnetic energy, such as light,

to activate the metal oxide(s), such is deemed to be moot since applicant's invention is drawn to a composition not to a method of activating the composition. Furthermore, it is held by the examiner that the patent's oxygen generating compositions produced small quantities of carbon dioxide due to the use of sodium carbonate hydrogen peroxide adduct.

Yoshida teaches air bag generating compositions that comprise a nitrogen containing organic compound, an oxygen generating compound, and a catalyst, such as copper oxide, see the abstract, and Tables 1-2. Applicant's claims are deemed to be anticipated over the compositions listed in the Tables. Although the patent does not directly disclose the use of electromagnetic energy, such as light, to activate the metal oxide(s), such is deemed to be moot since applicant's invention is drawn to a composition not to a method of activating the composition.

14. Claims 1-5, 7-10, 38-42 and 44-49 rejected under 35 U.S.C. 102(b) as being anticipated by Cawlfield et al. U.S. Patent Number 5,411,643.

Cawlfield et al teaches integrated process of using chloric acid to separate zinc oxide and manganese oxide. Applicant's claims are deemed to be anticipated over the chlorine generating aqueous compositions comprising chloric acid, zinc oxide and manganese oxide, see abstract, and column 4, lines 10-65.

15. Claims 6 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida U.S. Patent Number 5,898,126.

Yoshida has been described above and differs from applicant's claimed invention in that there is no direct teaching (i.e. by way of an example) to where a composition is taught that actually contain one of applicant's claimed anion species.

It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference as motivation to actually use one of applicant's claimed anions, such as chlorite or hypochlorite, since such anions directly fall with the broad category of oxo halogen acid salts as disclosed by the reference, see column 3, line 64 to column 4, line 51.

Examiner Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (703) 308-0446. This examiner can normally be reached on Monday through Thursday from 7:35 a.m. to 6:00 p.m. in the eastern time zone. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The group FAX machine number is (703) 872-9306. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0651. The receptionist is located on the 8th floor of Crystal Plaza 3 (e.g. CP-3) and will be the welcome point for all visitors to the building.

Joseph D. Anthony
Primary Patent Examiner
Art Unit 1714

9/7/03